The listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

1. (original)   Method for compressing data, comprising the steps of:

    transforming data of a frame into a first sequence
    of real numbers by using an entropy increasing transform method;

    quantizing said first sequence of real numbers of said frame to
    obtain a first sequence of integers;

    quantizing said first sequence of integers of said frame using a predicted sequence
    of integers representing said first sequence of integers to produce a second sequence of
    integers; and

    encoding said integers of said second sequence of said frame into a stream of bits
    representing the compressed sequence of integers of said frame.

2. (original)   Method according to claim 1, wherein quantizing said first sequence of
    integers of said frame comprises the step of:

    for each coefficient of said second sequence of integers, selecting a relation
    between an integer of said first sequence of integers of said frame and the corresponding
    integer of a reference frame and the corresponding integer of the predicted sequence
    based on an evaluation value of said relation.

3. (original)   Method according to claim 2, wherein the step of selecting comprises the
    step of

for each coefficient of said second sequence of integers, comparing a first relation between the integer of said first sequence of integers of said frame and the corresponding integer of a reference frame and a second relation between said integer and the corresponding integer of the predicted sequence; and

determining the evaluation value for each relation based on respective relation in encoded form.

4. (original)   Method according to claim 2, wherein the step of determining comprises the step of

determining the absolute value of respective relation, wherein the evaluation value for each relation is set to the corresponding absolute value.

5. (original)   Method according to claim 4, wherein the step of selecting comprises the step of selecting the relation having the lowest absolute value.

6. (original)   Method according to claim 2 or 3, wherein the step of selecting comprises the step of:

selecting said relation according to

c'=c-r   if $p = r$ or $\dfrac{c-r}{p-r} < \dfrac{1}{2}$,

c'=c-p   otherwise

, where c' is an integer of the second sequence, p is the corresponding integer of the predicted sequence, c is the corresponding integer of the first sequence of a current frame, and r is the corresponding integer of a reference frame.

7. (original)   Method according to claim 4, wherein the step of quantizing said first

sequence of integers of said frame further comprises the step of: if

$$p \neq r \ \text{and} \ -\frac{1}{2} \leq \frac{c-r}{p-r} < \frac{3}{2},$$

associating a control bit identifying the selected relation.

8. (original)   Method according to any one of preceding claims, further comprising the

step of:

storing said stream of bits as a compressed representation of said

sequence of said frame.

9. (original)   Method according to any one of the preceding claims, further comprising

decompressing said compressed sequence by inverting the steps of transforming,

quantizing said first sequence of real numbers, quantizing said first sequence of integers

of said frame, and decoding in reverse order.

10. (original)   Method according to claim 9, wherein the step of inverting the step of

quantizing said first sequence of integers comprises the steps of:

reconstructing a sequence of integers of a current frame according

to

$$c = c' + r \qquad \text{if} \ p = r \ \text{or} \ \frac{c-r}{p-r} < \frac{1}{2},$$

$$c = c' + r \qquad \text{otherwise}$$

, where c' is an integer of the compressed sequence, r is the corresponding integer of the

reference frame, and c is the corresponding integer of the reconstructed sequence

representing the first sequence of the current frame

11. (original)   Method according to claim 10, wherein the step of reconstructing

comprises the step of

if

$$p \neq r \text{ and } -\frac{1}{2} \leq \frac{c-r}{p-r} < \frac{3}{2},$$

where p an integer of the predicted sequence and c is the corresponding integer of the

current frame, using the associated control bit to identify the relation between an integer,

c', of the compressed sequence, the corresponding integer, r, of the reference frame, and

the corresponding integer, c, of the reconstructed sequence representing the first sequence

of the current frame.

12. (original)   Method according to claim 10 or 11, further comprising the step of

storing the reconstructed sequence of integers.

13. (original)   Method according to any one of preceding claims, wherein the predicted

sequence is a simulated reconstructed sequence of a previous frame.

14. (original)   Method according to any one of the preceding claims, wherein the entropy

increasing transform method is a wavelet transform method.

15. (currently amended)   System for compressing and decompressing data, comprising:

a storage device for storing data;

transform means arranged to transform a frame of data into a first sequence of real

numbers;

compression processing means, comprising

quantization means arranged to quantize said first sequence of real numbers
to produce a ~~second~~ first sequence of integers;

adaptive quantization means arranged to quantize said first
sequence of integers to produce a second sequence of integers by using a predicted
sequence of integers representing said first sequence of integers; and

encoding means arranged to encode said integers of said second sequence of
said frame into a stream of bits representing the compressed sequence of integers of
said frame.

16. (original)   System according to claim 15, further comprising

reconstruction means comprising

decoding means arranged to decode a bit stream representing a compressed
sequence of integers into a third sequence of integers;

inverse adaptive quantization means arranged to inversely
quantize said fourth sequence of integers to produce a reconstructed first sequence
of integers by using the predicted sequence of integers representing said first
sequence of integers; and

inverse quantization means arranged to inversely quantize said reconstructed
first sequence of integers to produce a second sequence of integers second
sequence of real numbers; and

inverse transform means arranged to inversely transform said
sequence of real number to a reconstructed frame of data.

17. (original)   Computer readable medium comprising instructions for bringing a
computer to perform the method according to any one of the claims 1-14.